



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,275	04/21/2004	Hul-Chun Hsu	OP-093000008	5428

7590 05/03/2005  
Yi-Wen Tseng  
4331 Stevens Battle Lane  
Fairfax, VA 22033

EXAMINER

MCKINNON, TERRELL L

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

<b>Office Action Summary</b>	<b>Application No.</b> 10/828,275	<b>Applicant(s)</b> HSU, HUL-CHUN	
	<b>Examiner</b> Terrell L Mckinnon	<b>Art Unit</b> 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/21/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 3743

***Response to Request for Reconsideration***

Receipt is acknowledged of applicant's Request for Reconsideration filed February 21, 2005. Claims 1-16 are pending and an action on the merits is as follows.

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the grounds of rejection.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 3743

2. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Sarraf (U.S. 6,793,009).

Sarraf discloses a heat pipe comprising all of the applicant's claimed and disclosed limitations of the instant invention.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf (U.S. 6,793,009) in view of Kosson et al. (U.S. 3,901,311).

Sarraf's invention discloses all of the claimed limitations from above except for a support member disposed in the tubular member to press the wick structure against the internal wall of the tubular member; the support member has a fusion point higher than those of the mesh and the particulates; the support member includes a plate spiral structure; the support member includes a porous plate curled as a roll; and the support member is fabricated from a resilient material.

5. However, Kosson teaches a member (12) disposed in the tubular member and pressed against the internal wall of the tubular member; the

Art Unit: 3743

member includes a plate spiral structure; the member includes a porous plate curled as a roll; and the member is fabricated from a resilient material.

Given the teachings of Kosson, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat pipe of Sarraf with a support member disposed in the tubular member to press the wick structure against the internal wall of the tubular member; the support member has a fusion point higher than those of the mesh and the particulates; the support member includes a plate spiral structure; the support member includes a porous plate curled as a roll; and the support member is fabricated from a resilient material.

Doing so would provide a reliable support structure, which will also enhance heat transfer.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf (U.S. 6,793,009) in view of Kosson et al. (U.S. 3,901,311) as applied to claims above, and further in view of Han et al. (U.S. 6,427,765).

Sarraf's invention, as modified by Kosson, discloses all of the claimed limitations from above except for the support member being a linear spiral structure.

7. However, Han teaches the use of a heat pipe comprising a linear spiral structure.

Given the teachings of Han, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the heat pipe of Sarraf with linear spiral structure.

Art Unit: 3743

Doing so would provide an alternate means of supporting the heat pipe during normal operating conditions.

### ***Response to Arguments***

Applicant's arguments filed February 21, 2005 have been fully considered but they are not persuasive.

Applicant's states, nowhere in Sarraf disclose "a plurality of particulates embedded in interstices of the mesh, wherein the mesh and the particulates embedded therein are attached to the internal wall".

Sarraf discloses "a plurality of particulates embedded in interstices of the mesh, wherein the mesh and the particulates embedded therein are attached to the internal wall" (column 2; line 64 through column 3: line 5, and column 3; lines 18-28, also column 3; line 65 through column 4; line 9).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

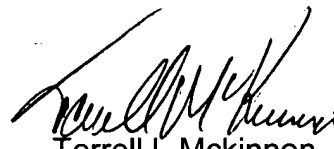
Art Unit: 3743

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L Mckinnon whose telephone number is 571-272-4797. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Terrell L Mckinnon  
Primary Examiner  
Art Unit 3743  
May 2, 2005